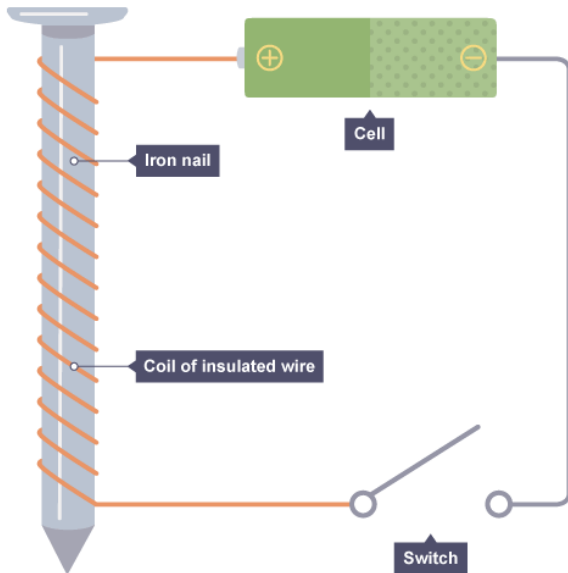


Dry Lab Electromagnet Question

Global Context: Scientific and Technological Development

It is very important in Science to look for patterns to understand the relationships between variables.

A student investigates the relationship between the number of turns of coil on an electromagnet and its strength. The diagram shows how the experiment was set up.



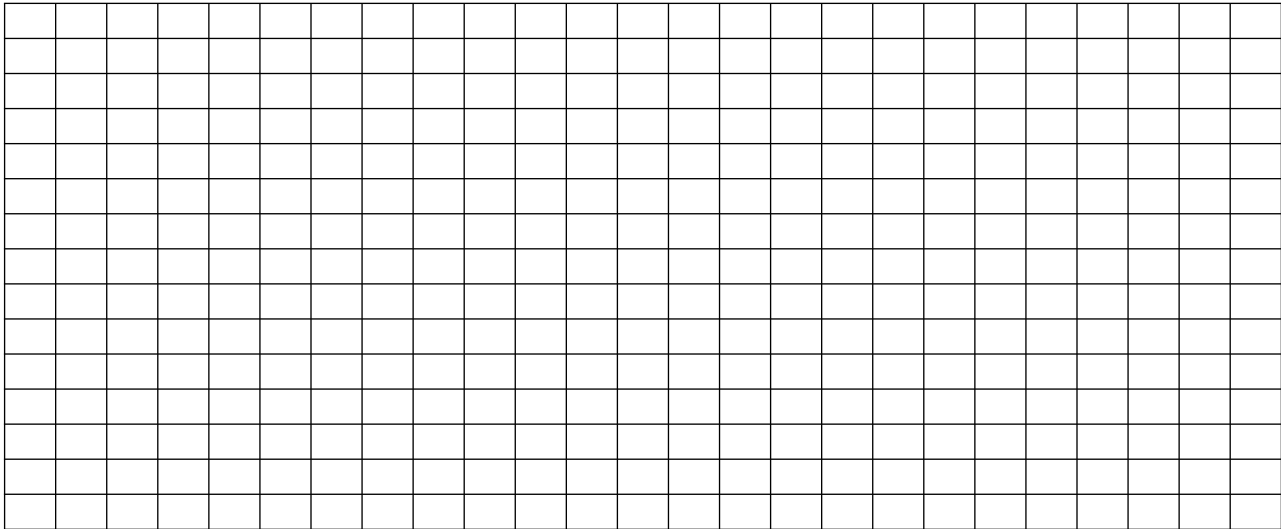
The student started off by having a 10 turn coil, switched it on and counted the number of paper clips that stuck to it. Here are the results.

Number of turns	Number of clips
10	5
20	10
30	14
40	18
50	22

Criterion C: Processing and Evaluating

- Draw a graph of the results.
- Determine whether there is a correlation--on the graph.
- Interpret the data using scientific reasoning.

d) What would make the method valid?



e) Another student predicts that a 60 turn coil would hold 30 clips.
Do you agree? Justify.

Criterion B: Inquiring and Designing

A second investigation was attempted to find the relationship between the current through the coil and its strength.

Outline how this would be done--select appropriate materials and equipment.

Describe how to manipulate the variables, and describe how sufficient, relevant data will be collected.